

Appl. No. 09/767,282
Amdt. dated September 23, 2003
Reply to Office Action of June 24, 2003

PATENT

REMARKS/ARGUMENTS

This Amendment is responsive to the Office Action mailed on June 24, 2003. A Request for Continued Examination is being filed herewith. Entry of the Amendment is requested.

Prior to this Amendment, claims 7, 8, 10-13, and 33-34 were pending and subject to examination. In this Amendment, claim 13 is canceled and the limitation therein is incorporated into independent claim 7 so that claims 7, 8, 10, 11, 12, 33, and 34 are subject to examination.

At page 2, the Examiner indicates that the election of species/restriction requirement is final. Applicants reserve the right to file divisional applications for the non-elected claims.

At page 3 of the Office Action, claims 7, 11-13, 33 and 34 are rejected as obvious over Ogino et al. (U.S. Patent No. 6,471,821) in view of Yamagata et al. (U.S. Patent No. 5,362,358) and Miller et al. This rejection is traversed.

In the Amendment filed on May 12, 2003, Applicants explained why the combination of Ogino et al., Yamagata et al., and Miller et al. is improper. Applicants again submit that the combination of Ogino et al., Yamagata et al., and Miller et al. is improper for the reasons argued in the Amendment filed on May 12, 2003. Applicants' arguments therein are herein incorporated by reference.

In response to Applicants' arguments, page 6 of the Office Action states:

The Examiner argues that the motivation for employing a matching network in the reactor of Ogino et al. is for the general intended use of a matching network which [is] to correct the impedance mismatch between the reactor (load) and the power source. The matching network may be chosen to be a variable or a fixed frequency matching network, wherein in a fixed frequency matching network, a [desired] frequency is preferably set to pass to the reactor. The [desired] frequency in practice may be a small range within the tolerance of the matching network circuit. Thus, one of ordinary skill in the art would [choose] the matching network for correcting the impedance mismatch between the reactor and the power source when frequencies of the modulating frequency signals are within the frequency tolerance of the matching network. (emphasis added).

The alleged "motivation" of "correcting the impedance mismatch between the reactor and the power source when frequencies of the modulating frequency signals are within the frequency

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tolerance of a matching network" would not even modify Ogino et al. in a way that would arrive at the invention of claim 7. Claim 7 states that the signal matching network is adapted to receive a "frequency modulated signal", not a modulating frequency signal. For example, a modulating signal of 1 MHz would not pass through a matching network designed for 100 MHz (which would allow for power between about 98 MHz to 102 MHz to pass). See p. 10, lines 7-16 of the specification. Accordingly, even the Examiner's proposed modification of Ogino et al. does not logically lead one to arrive at the claimed invention.

Moreover, even assuming *arguendo* that the alleged motivation could even be reasonably construed as being a reason to combine the cited references, the alleged motivation was improperly derived from Applicants' own invention disclosure and not the prior art as required by 35 USC § 103. As stated by MPEP §2143, under the header "Basic Requirements of a Prima Facie Case of Obviousness":

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis added.)

Here, the alleged statement "one of ordinary skill in the art would [choose] the matching network for correcting the impedance mismatch between the reactor and the power source when frequencies of the modulating frequency signals are within the frequency tolerance of the matching network" is not taught or suggested by the cited prior art. The Examiner relies on Yamagata et al.'s impedance matching network to obviate the claims. Yamagata et al.'s description of the impedance matching network is limited to the single sentence at col. 6, lines 8-10. This sentence says nothing about "correcting the impedance mismatch between the reactor and the power source when frequencies of the modulating frequency signals are within the

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frequency tolerance of a matching network.” Ogino et al. or Miller et al. also fail to teach or suggest “correcting the impedance mismatch between the reactor and the power source when frequencies of the modulating frequency signals are within the frequency tolerance of a matching network.” Rather, the only place of record that discusses the combination of frequency modulation, frequency tolerances, and a matching network *in any context* is the present application (see, e.g., page 10, lines 6-16 of the present specification). Since the alleged “motivation” to combine came directly from Applicants’ own invention disclosure, and not the prior art as required by § 103, the obviousness rejection is improper.

At page 8 of the Amendment filed May 12, 2003, Applicants listed the many advantages of embodiments of the invention. However, contrary to the MPEP, the Examiner does not address these asserted advantages. MPEP § 707(f) states:

After an Office action, the response (in addition to making amendments, etc.) may frequently include arguments and affidavits to the effect that the prior art cited by the examiner does not teach how to obtain or does not inherently yield one or more advantages (new or improved results, functions or effects), which advantages are urged to warrant issue of a patent on the allegedly novel subject matter claimed.

If it is the examiner’s considered opinion that the asserted advantages are without significance in determining patentability of the rejected claims, he or she should state the reasons for his or her position in the record, preferably in the action following the assertion or argument relative to such advantages. By so doing the applicant will know that the asserted advantages have actually been considered by the examiner and, if appeal is taken, the Board of Patent Appeals and Interferences will also be advised.

In accordance with the rules of the MPEP, Applicants request that the Examiner consider all of Applicants’ arguments for patentability.

Lastly, to expedite the prosecution of the application, claim 7 is amended to indicate that the modulation frequency is “less than about 0.1 times the carrier frequency.” Miller et al. is alleged to teach this feature (see page 4 of the Office Action). While the Examiner alleges that “it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the modulator 92 as taught by Yamagata et al and the carrier source and the modulation source as taught by Miller in the apparatus of Ogino et al. in order to generate a

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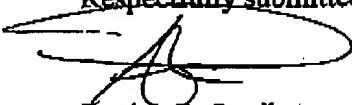
modulated frequency," the Examiner provides no reason explaining why one skilled in the art would have been motivated to have chosen a modulation frequency that is "less than about 0.1 times the carrier frequency" from the vast number of different carrier frequencies. Even assuming *arguendo* that Miller et al., a general text on electronics, even teaches this feature, Miller et al. provides no motivation to use any frequency modulated signal in a plasma reactor, let alone a modulation frequency that is less than about 0.1 times a carrier frequency. Rather, the only place of record that provides a reason for using a modulating frequency that is less than about 0.1 times the carrier frequency is page 10, lines 1-16 of the specification. Since the prior art fails to provide any motivation to modify the prior art to arrive at the invention of claim 7, obviousness has clearly not been established with respect to independent claim 7.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



Patrick R. Jewik
Reg. No. 40,456

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: 415-576-0300
PRJ:prj
60045087 v1

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